ADJUSTMENT PROCEDURES

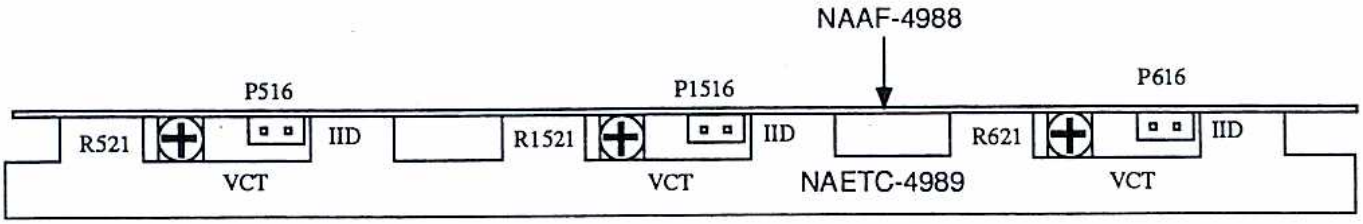
● Preparation

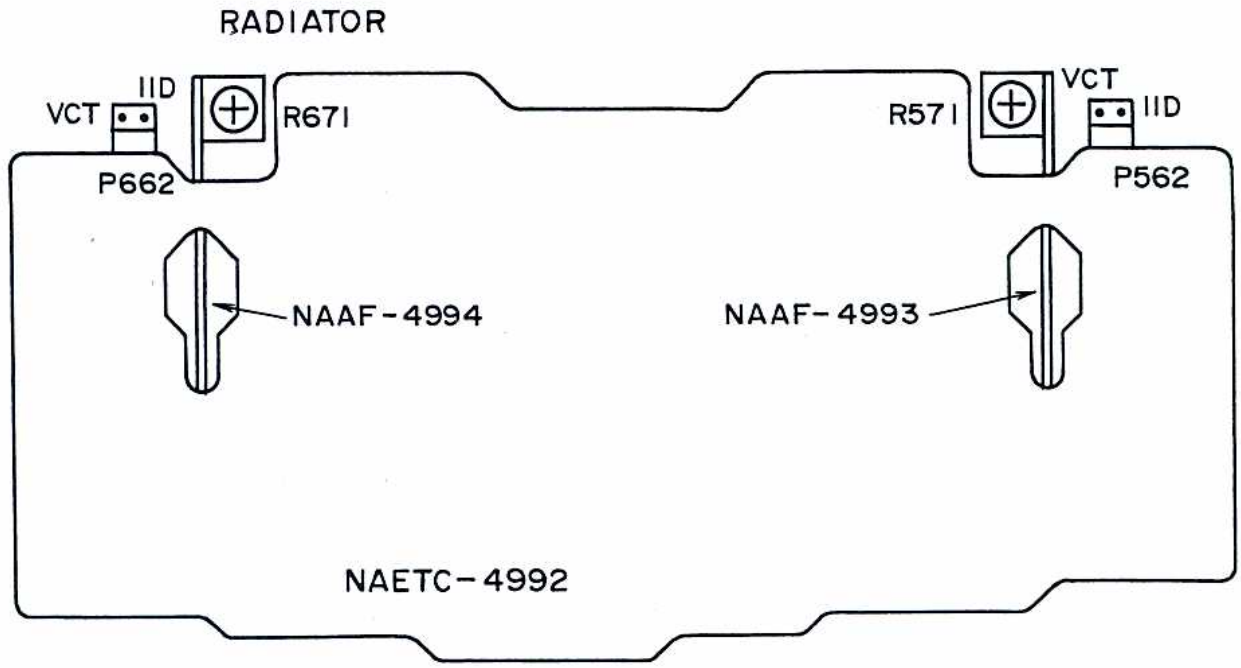
1. Input
   FM mono: 1kHz, 75kHz devi., 60dB/μV
   FM stereo: 1kHz, L+R 67.5kHz devi.,
   Pilot signal 19kHz 7.5kHz devi.
   AM: 400Hz 30% mod.
2. Outputs
   Connect the non-inductive type resistors of 8 ohms to the front speaker, center speaker, and rear speaker terminals unless otherwise noted.
3. Standard Knob Position
   VOLUME ..... Maximum
4. Initializing of unit
   1. Turn the POWER switch to ON.
   2. Press and hold down the CD button, then press the POWER button.
   3. "Test-" is displayed on the display for approximately 5 seconds.
   4. While "Test-" is displayed, unplug the TX-SV919THXs power cord from AC outlet, then "Clear" be displayed.
   5. After "Clear" is displayed, the preset memory and parameters stored in the memory, such as surround, are initialized and will return to the factory settings.

● Amplifier section

Idling Current Adjustment (Front/Center)
Connect the DC voltmeter to the terminals P516, P616, and P1516 (VCT and IID) on the main circuit pc board.
Adjust the trim resistors R521, R621 and R1521 so that the indicator of voltmeter becomes 4 $\pm$ 0.5 mV.
NOTE: Adjust after switching on for 5 minutes.

Idling Current Adjustment (Surround)
Connect the DC voltmeter to the terminals P562 and P662 (VCT and IID) on the main circuit pc board.
Adjust the trim resistors R571 and R671 so that the indicator of voltmeter becomes 4 $\pm$ 0.5 mV.
NOTE: Adjust after switching on for 5 minutes.





PARTS LIST

NOTE: THE COMPONENTS IDENTIFIED BY MARK ⚠ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

REF. NO.	PART NO.		DESCRIPTION
1	27110695B		Front bracket
2	27130685		Bracket PT
3	28170030		Bush
4	27115251C		Side bracket
5	27130686		Bracket H
7	27160307C		Radiator
8	27141527		Retainer HL-1
9	27141528		Retainer HL-2
10	27160335		Radiator
11	27141529A		Retainer HS-1
12	27141530A		Retainer HS-2
13	27141531A		Retainer PU
14	27141532		Retainer PD-1
15	27141533		Retainer PD-2
16	27141534A		Retainer PN-1
17	27141535A		Retainer PN-2
18	27141629		Retainer VOL
19	27121877		Rear panel <D>
	27121878		Rear panel <P>
20	27300750	⚠	Bushing cord
21	28133282		Back plate
22	28140860		Cushion
23	28141213		Cushion
24	880009		NRP-345,Plastic rivert
25	27190369		KGLS-22S,Holder
27	27190480		KGLS-8S,Holder
28	27190011		KGLS-6S,Holder
29	834430088		3TTS+8B(BC),Self-tapping screw
30	833430080		3TTP+8P(BC),Self-tapping screw
31	831130088		3TTW+8B,Self-tapping screw
32	834430108		3TTS+10B(BC),Self-tapping screw
33	830440089		4TTC+8C(BC),Self-tapping screw
35	801433		3SMS8WSW+14B(BC),Special screw
36	831430088		3TTW+8B(BC),Self-tapping screw
37	801541		HFS-4S-BIWM,Special screw
38	28184515B		Top cover
39	27265155A		Decoration ring
40	838440089		4TTB+8C(BC),Self-tapping screw
41	28185381A		Side panel L
42	28141210		Cushion
43	28185382A		Side panel R
44	837440169		4TTT+16C(BC),Self-tapping screw
45	28141212		Cushion
46	1A512121		Front panel ass'y
47	27215251A		Front panel
48	28191626		Clear plate
49	28191568		Clear plate RE
50	834430088		3TTS+8B(BC),Self-tapping screw
51	28148293A		Door
52	28324603A		Knob
53	28324965		Knob
54	27301503B		Bearing L
55	27301504A		Bearing R
56	28400363		Damper
57	27301083A		Gear
58	27301814A		Boss
59	87642607		Washer
60	833426060		2.6TTP+6P(BC),Self tapping-screw
61	833420108		2TTP+10B(BC),Self tapping-screw
62	838430080		3TTP+8P(BC),Self tapping-screw
63	838430088		3TTB+8B(BC),Self tapping-screw
64	27170288B		Bottom board
65	27175251-1		Leg
66	834430088		3TTS+8B(BC),Self tapping-screw
67	28324597		Knob, Volume
99	25055436		NPLG-2P418,Shorted bar
100	260208		Wire tie
D911	22380044	⚠	RBV1506,Rectifier diode
D921	22380038	⚠	RBV602,Rectifier diode
F901	252154	⚠	8A-TSC,Primary fuse <D>
F902	252152	⚠	5A-TSC,Primary fuse <D>
F903	252077	⚠	4A-SE-EAK,Primary fuse <P>
F904	252075	⚠	2.5A-SE-EAK,Primary fuse <P>
F905	252075	⚠	2.5A-SE-EAK,AC outlet fuse <P>
JL701	2046082523		NCFC6-082523,Flexible flat cable
P300	25060044		Ground terminal
P901	253192HIT	⚠	AS-UC-6#18,Power supply cord <D>
	253172 or	⚠	AS-CEE-2 or
	253092-1A	⚠	AS-CEE-2,Power supply cord <P>
Q513,Q613	2201482 or	*	2SC3821-R or
Q1513	2201483	*	2SC3821-O, Transistors
Q514,Q614	2201472 or	*	2SA1302-R or
Q1514	2201473	*	2SA1302-O, Transistors
Q563,Q653	2202523,	*	2SC4468-O,
	2202524,	*	2SC4468-Y,
	2202526,	*	2SC4468-P,
	2202292 or	*	2SC3182N-R or
	2202293	*	2SC3182N-O, Transistors

CAUTION: Replacement for transistor of mark * , if necessary must be made from the same beta group (HFE) as the original type.

NOTE: <D>:120 V model only
<P>:230 V model only

REF.NO.	PART NO.		DESCRIPTION
Q564,Q664	2202513,	*	2SA1695-O,
	2202514,	*	2SA1695-Y,
	2202516,	*	2SA1695-P,
	2202282 or	*	2SA1265N-R or
	2202283	*	2SA1265N-O, Transistors
T901	2301020C	⚠	NPT-1210D,Power transformer <D>
	2301021C	⚠	NPT-1210P,Power transformer <P>
T902	2301024B	⚠	NPT-1211D,Power transformer <D>
	2301025B	⚠	NPT-1211P,Power transformer <P>
U1	1A512585-1		NAAR-4985-1,Main circuit pc board ass'y
U2	1A512586-1		NASW-4986-1,Selector switch pc board ass'y
U3	1A512587-1		NASW-4987-1,Remote control sensor pc board ass'y
U4	1A512588-1		NAAF-4988-1,Front and center power amplifier pc board ass'y
U5	1A512589-1		NAETC-4989-1,Power transistor pc board ass'y
U6	1A512590-1		NAETC-4990-1,Rectifier diode pc board ass'y
U7	1A512591-1		NAETC-4991-1,Speaker terminal pc board ass'y <D>
	1A512591-1A		NAETC-4991-1A,Speaker terminal pc board ass'y <P>
U8	1A512592-1		NAETC-4992-1,Power supply circuit pc board ass'y
U9	1A512593-1		NAAF-4993-1,Left channel surround power amplifier pc board ass'y
U10	1A512594-1		NAAF-4994-1,Right channel surround power amplifier pc board ass'y
U11	1A512595-1		NARF-4995-1,Tuner circuit pc board ass'y <D>
	1A512595-1A		NARF-4995-1A,Tuner circuit pc board ass'y <P>
U12	1A512596-1		NADIS-4996-1,Display circuit pc board ass'y
U13	1A512597-1		NAPS-4997-1,Power supply circuit pc board ass'y <D>
	1A512597-1A		NAPS-4997-1A,Power supply circuit pc board ass'y <P>
U14	1A512598-1		NAETC-4998-1,AC outlet terminal pc board ass'y <D>
	1A512598-1A		NAETC-4998-1A,AC outlet terminal pc board ass'y <P>
U15	1A512599-1		NAETC-4999-1,Headphone terminal pc board ass'y
U16	1A512500-1		NAAF-5000-1,Input terminal pc board ass'y <D>
	1A512500-1A		NAAF-5000-1A,Input terminal pc board ass'y <P>
U17	1A512501-1		NAAF-5001-1,Video terminal pc board ass'y <D>
	1A512501-1A		NAAF-5001-1A,Video terminal pc board ass'y <P>
U18	1A512502-1		NAETC-5002-1,Video selector pc board ass'y
U19	1A512503-1		NAETC-5003-1,Video composite circuit pc board ass'y
U20	1A512504-1		NAAF-5004-1,Tone and volume circuit pc board ass'y
U21	1A512505-1		NAAF-5005-1,Driver circuit pc board ass'y
U22	1A512506-1		NAPS-5006-1,Power supply circuit pc board ass'y
U23	1A512507-1		NAETC-5007-1,VIDEO 5 terminal pc board ass'y
U24	1A512508-1		NASW-5008-1,Operation switch pc board ass'y
U25	1A512509-1		NAETC-5009-1,Door open detection pc board ass'y
U26	1A512510-1		NADG-5010-1,DSP circuit pc board ass'y <D>
	1A512510-1A		NADG-5010-1A,DSP circuit pc board ass'y <P>

FM section

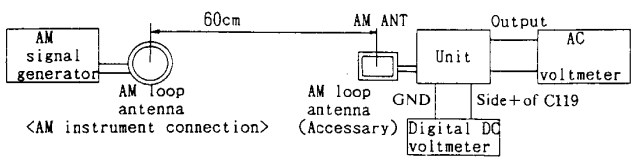
Item	Step	Connection of instrument	FM SG output	Stereo modulator output	Tuning frequency	Output indicator	Adjustment point	Adjust for	Remarks
FM IF/RF	1	Fig. 1	99.1MHz 1kHz, 75kHz devi. 65dBf (60dB)		99.1MHz	DC voltmeter	L101	0±20mV	FM MUTE/MODE switch:OFF(MONO) Repeat the steps 1 and 3 until no further adjustment is necessary.
	2					AC voltmeter	IFT on the front end	Maximum	
	3					Distortion analyzer	L102	Minimum	
VCO		Fig. 2	99.1MHz 1kHz, 75kHz devi. 65dBf (60dB)		99.1MHz	Frequency counter	R161	19kHz±10Hz	FM MUTE/MODE switch: ON (STEREO)
Stereo Distortion		Fig. 3	99.1MHz, Ext mod. 65dBf (60dB)	Channel L or R 1kHz	99.1MHz	Distortion analyzer	IFT on the front end	Minimum	Don't turn more than ±180°
Stereo Separation	1	Fig. 3	99.1MHz Ext. modulation 65dBf (60dB)	Channel L 1kHz	99.1MHz	Channel R AC voltmeter	R162	Minimum	Maximum and same separation.
	2			Channel R 1kHz		Channel L AC voltmeter		Minimum	
Tuning Level		Fig. 3	99.1MHz 19.2dBf (14dB)		99.1MHz	TUNED indicator	R101	Light on	FM MUTE/MODE switch: ON (STEREO)

AM section

Step	AM SG output	Tuning frequency	Output indicator	Adjustment point	Adjust for
1		530kHz (531kHz)	Digital DC voltmeter	OSC coil on RF block(L151)	1.4±0.1V
2	600kHz (603kHz) 400Hz, 30% mod. 60dB/m	600kHz (603kHz)	AC voltmeter	RF coil on RF block(L151)	Maximum
3	990kHz 400Hz, 30% mod. 60dB/m	990kHz	AC voltmeter	L152	Maximum

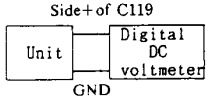
( ): 9kHz step model

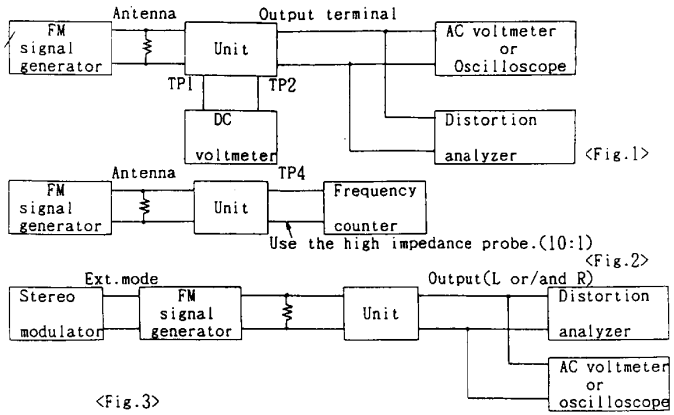
Reference Specifications
FM tuned voltage: 87.50MHz—108.00MHz
More than 1.3V: Less than 10V
AM tuned voltage: 530kHz 1.4±0.1V
1710kHz 9.0±0.5V
Auto stop level: AM: Less than 65dB/m
FM: Less than 17dBμ



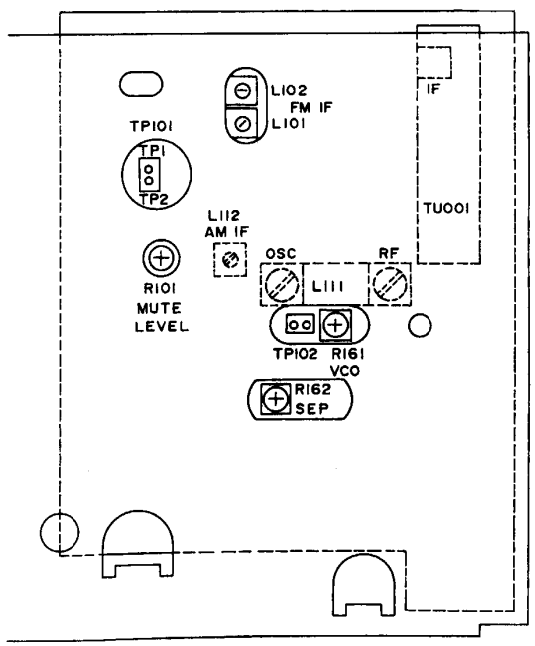
<AM instrument connection>

Confirmation of tuned voltage





<Fig.3>

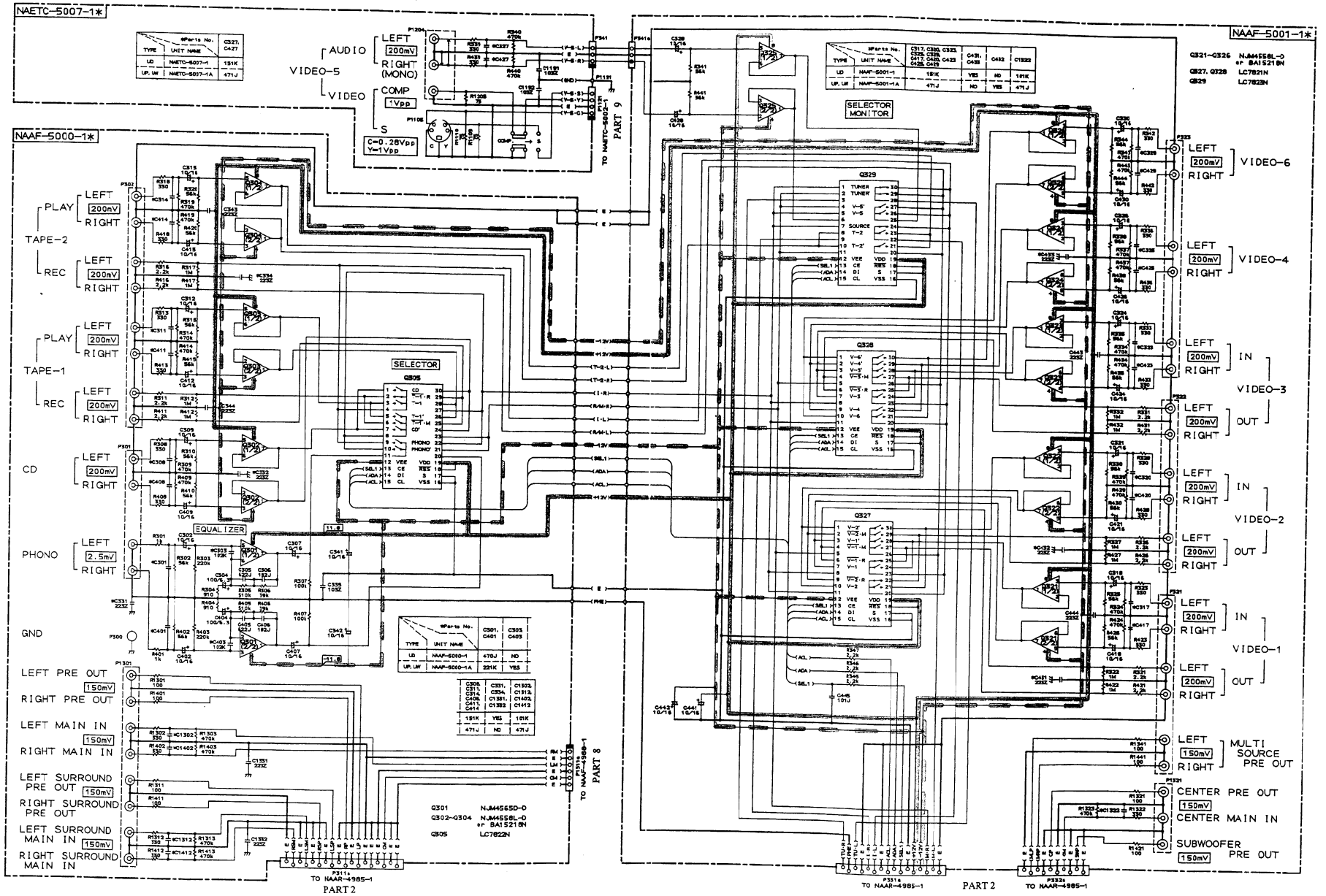


SIDE BRACKET

Tuner circuit pc board

SCHEMATIC DIAGRAM PART 6

INPUT TERMINAL SECTION



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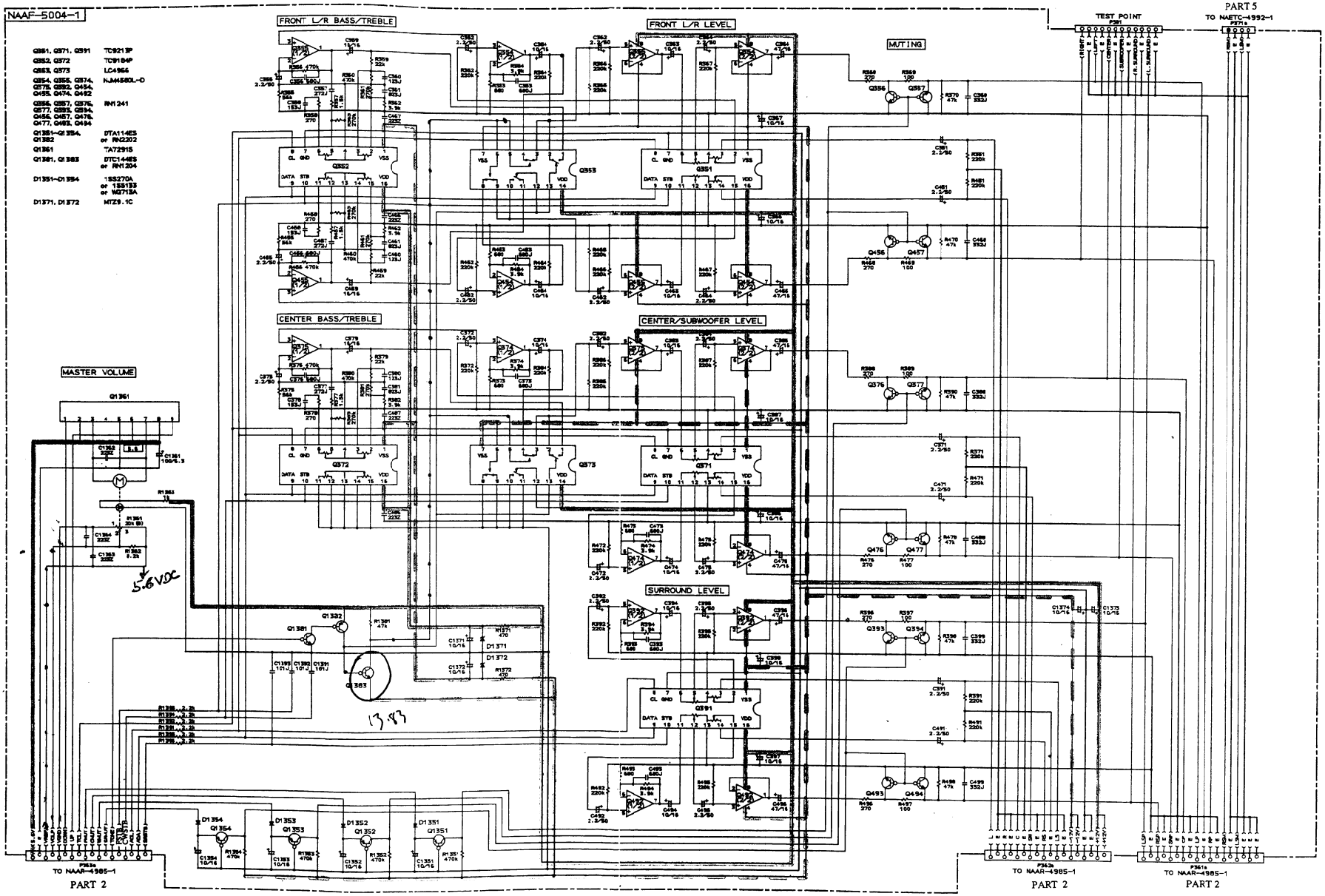
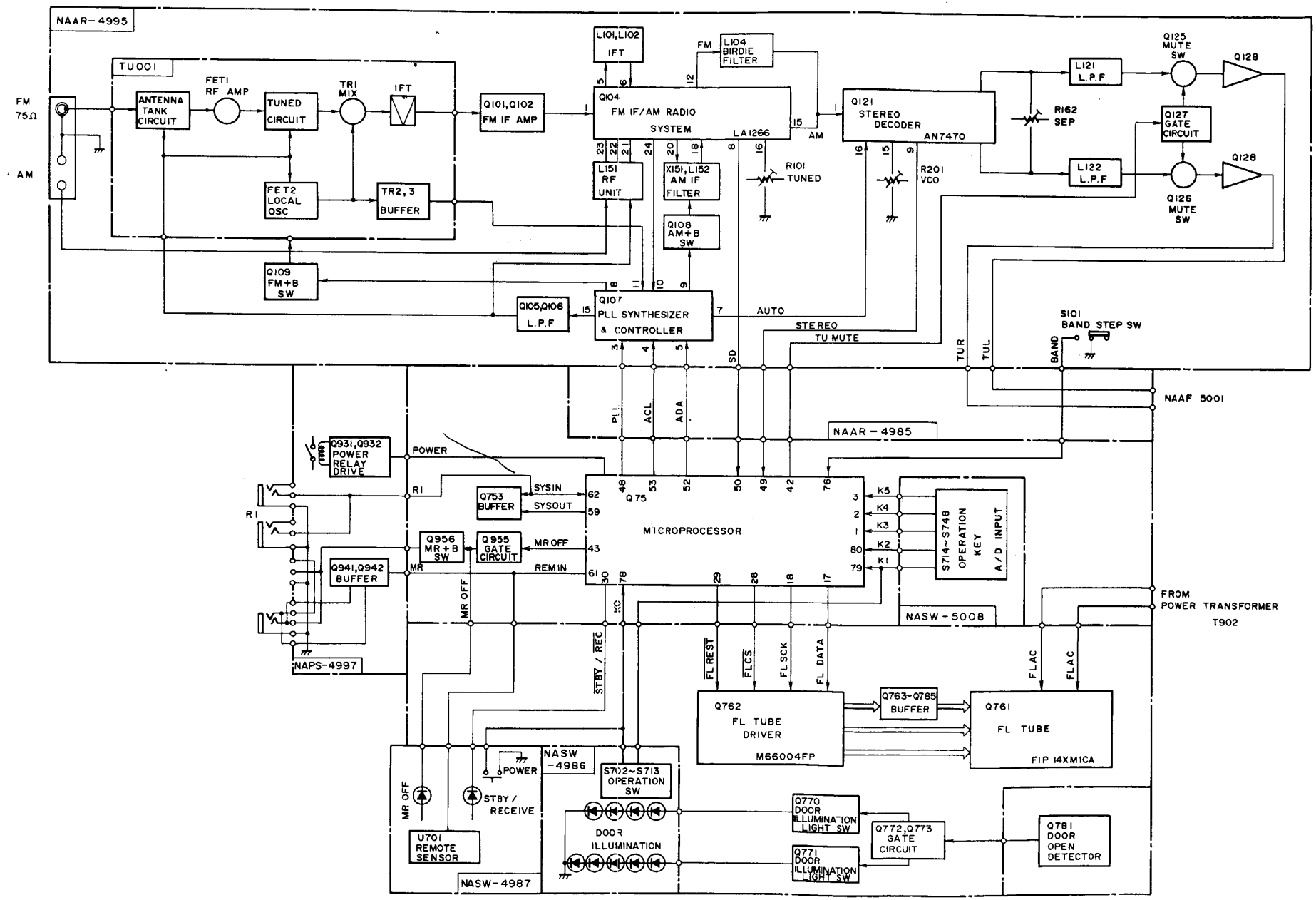
SCHEMATIC DIAGRAM PART 7

PREAMPLIFIER SECTION



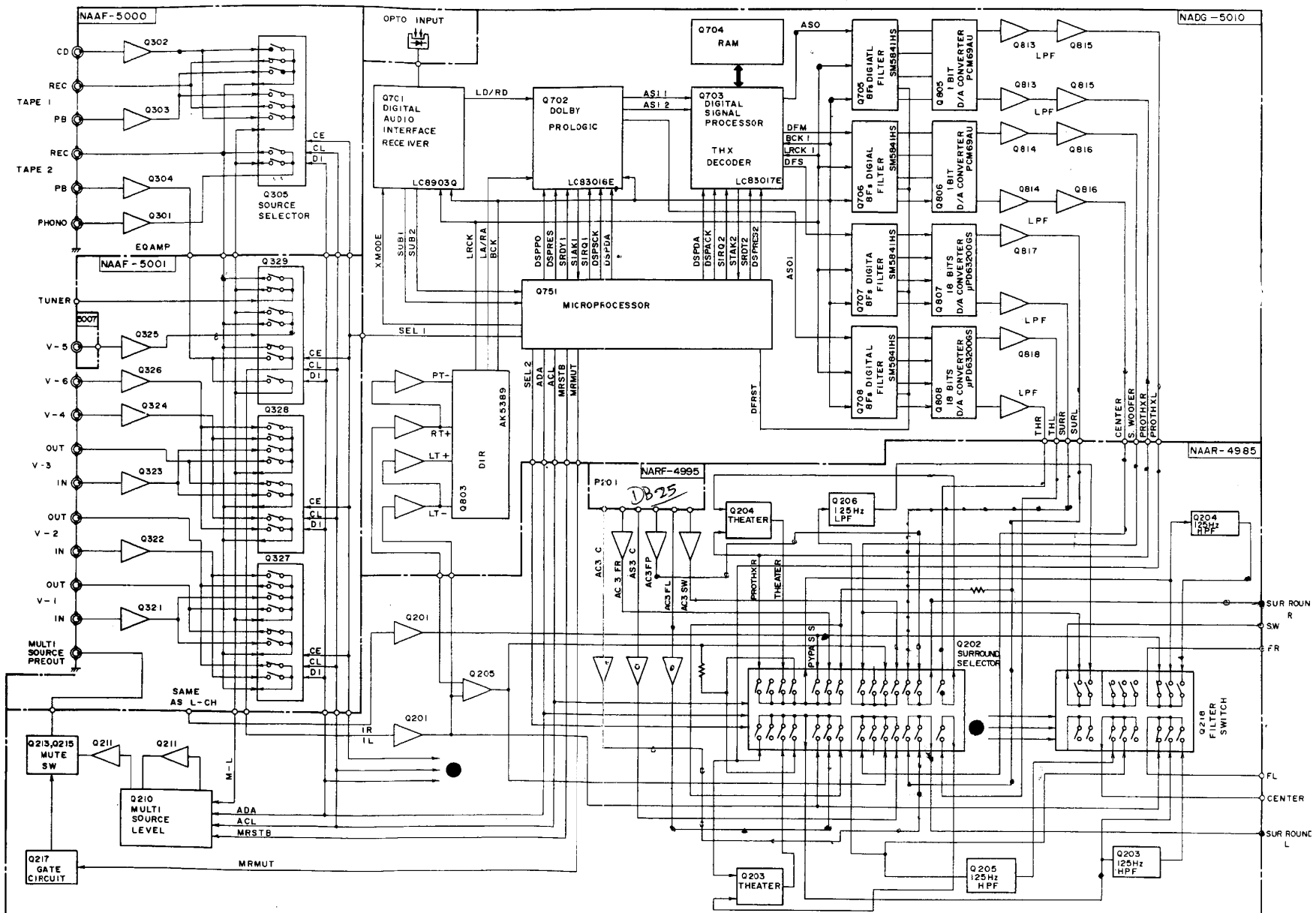
BLOCK DIAGRAM

TUNER SECTION



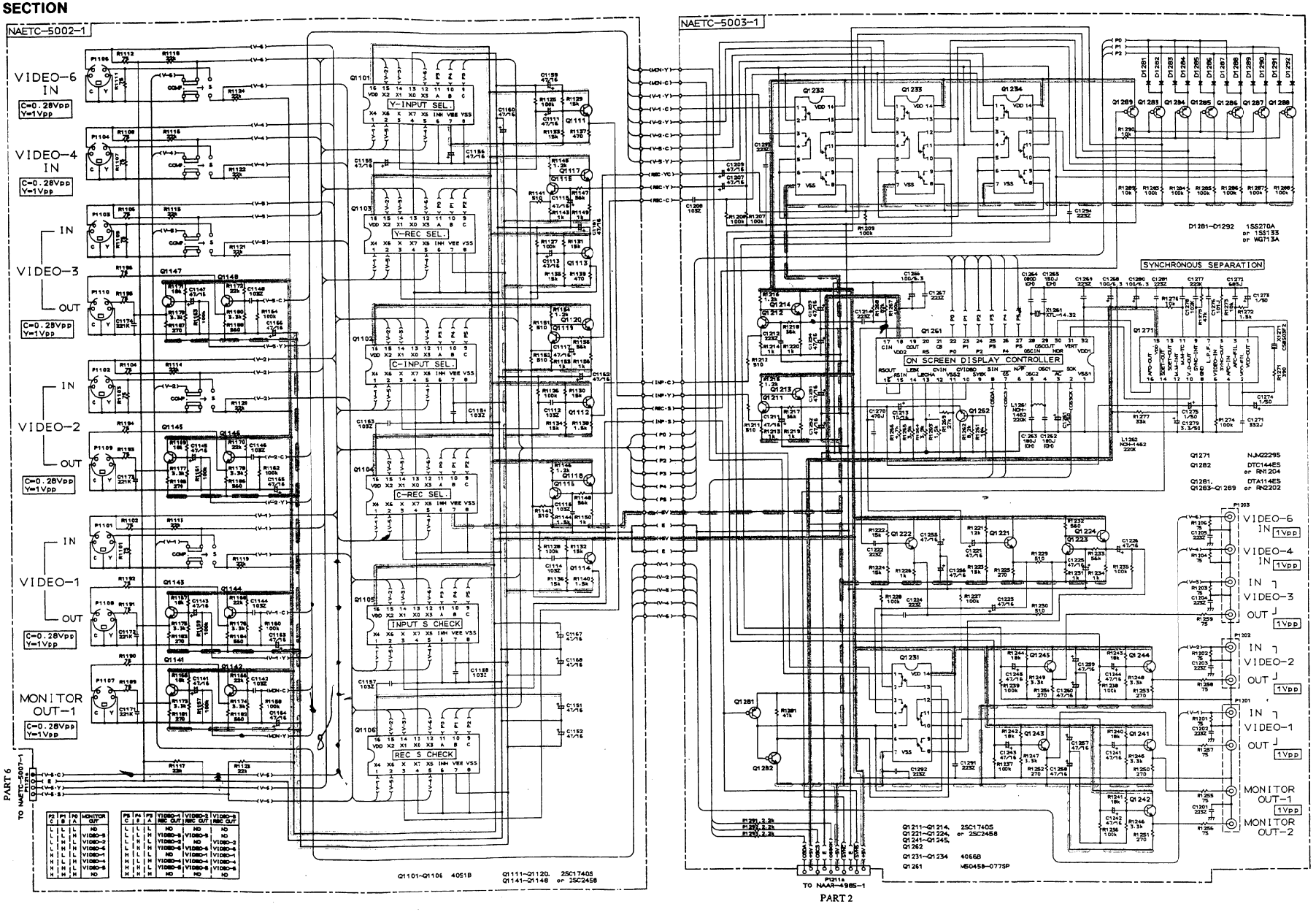
BLOCK DIAGRAM

AMPLIFIER SECTION



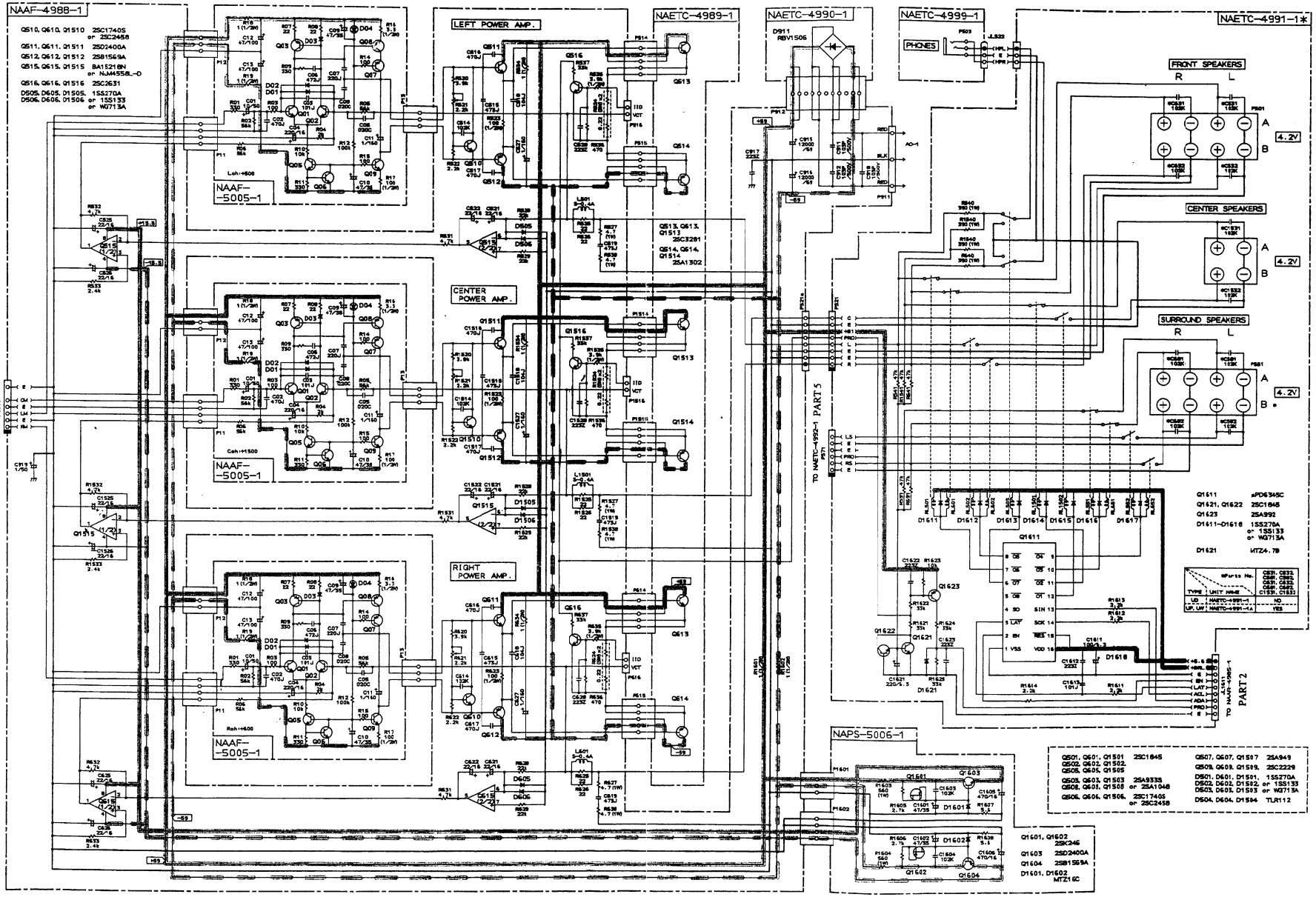
SCHEMATIC DIAGRAM PART 9

VIDEO SECTION



SCHEMATIC DIAGRAM PART 8

FRONT/CENTER POWER AMPLIFIER SECTION



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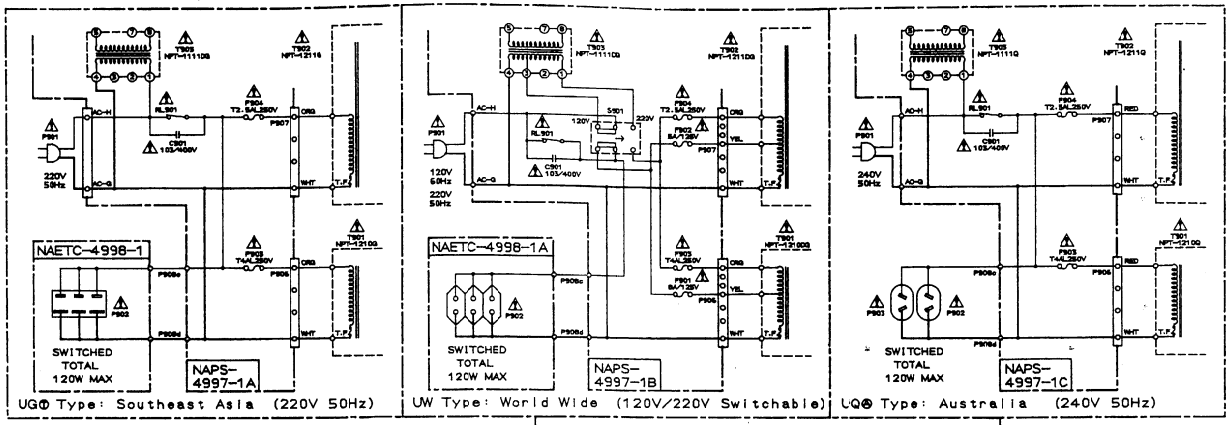
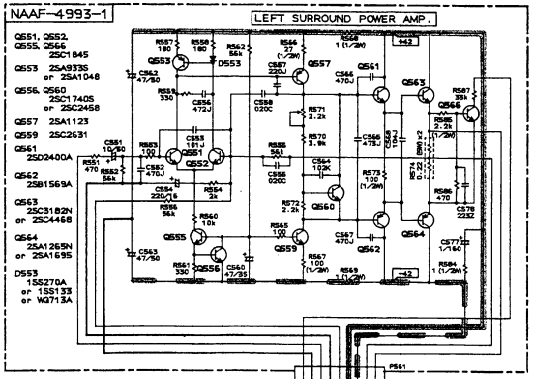
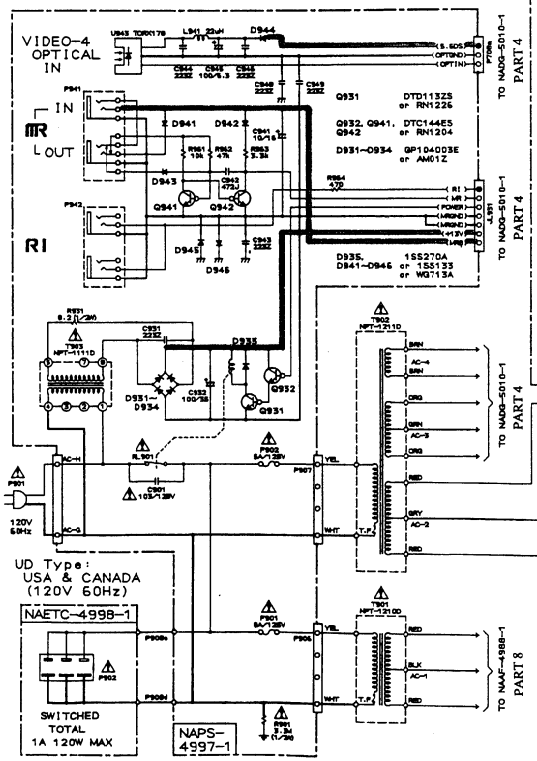
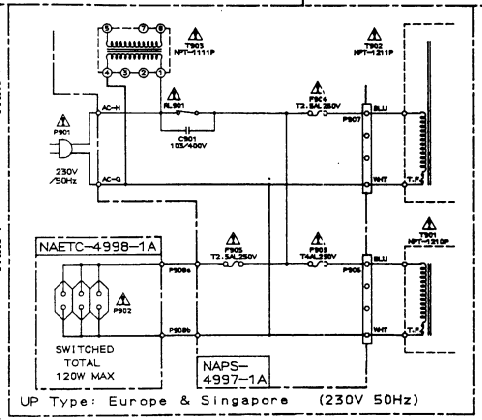
SCHEMATIC DIAGRAM PART 5

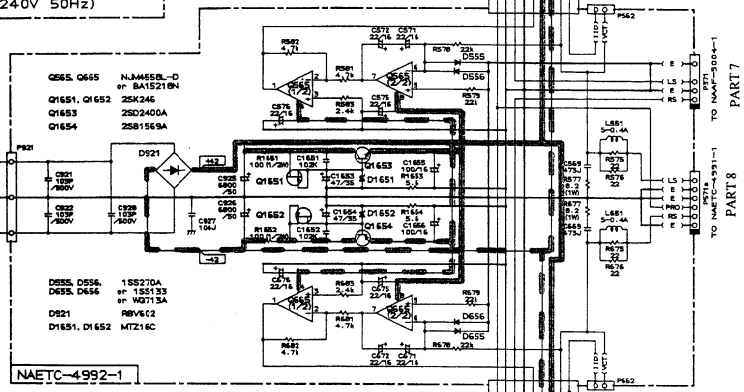
SURROUND POWER AMPLIFIER AND POWER SUPPLY SECTION

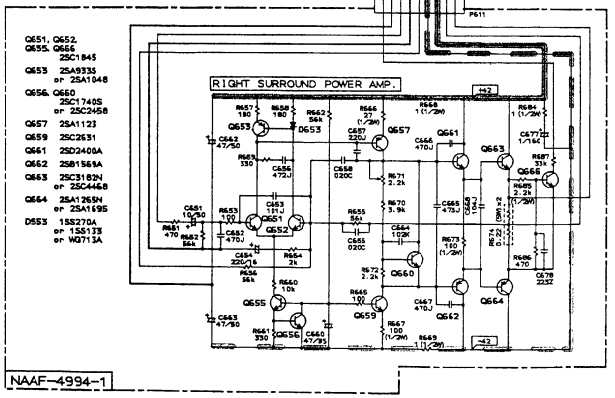












UD Type : 120V 60Hz Area
UDⓃ Type : USA
UDⒸ Type : CANADA

UP Type : 230V 50Hz Area
UP Type : Europe (except for Germany & Singapore
UPⓋ Type : Germany

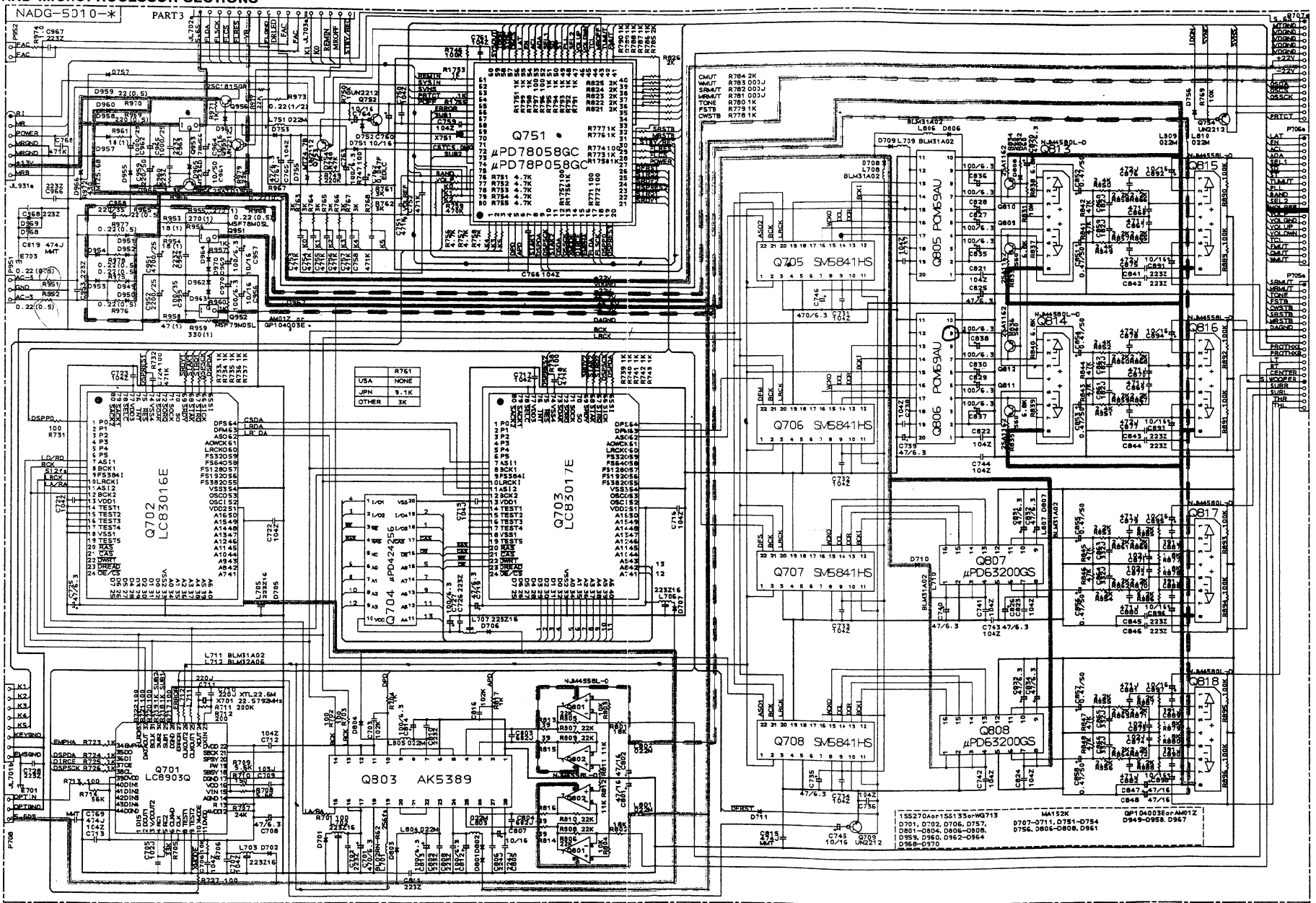
UW Type : 120V or 220V Switchable
UW Type : Worldwide
UWⓍ Type : PX

UQ Type : 240V 50Hz Area
UQⒶ Type : Australia

UG Type : 220V 50Hz Area
UGⓉ Type : Southeast Asia

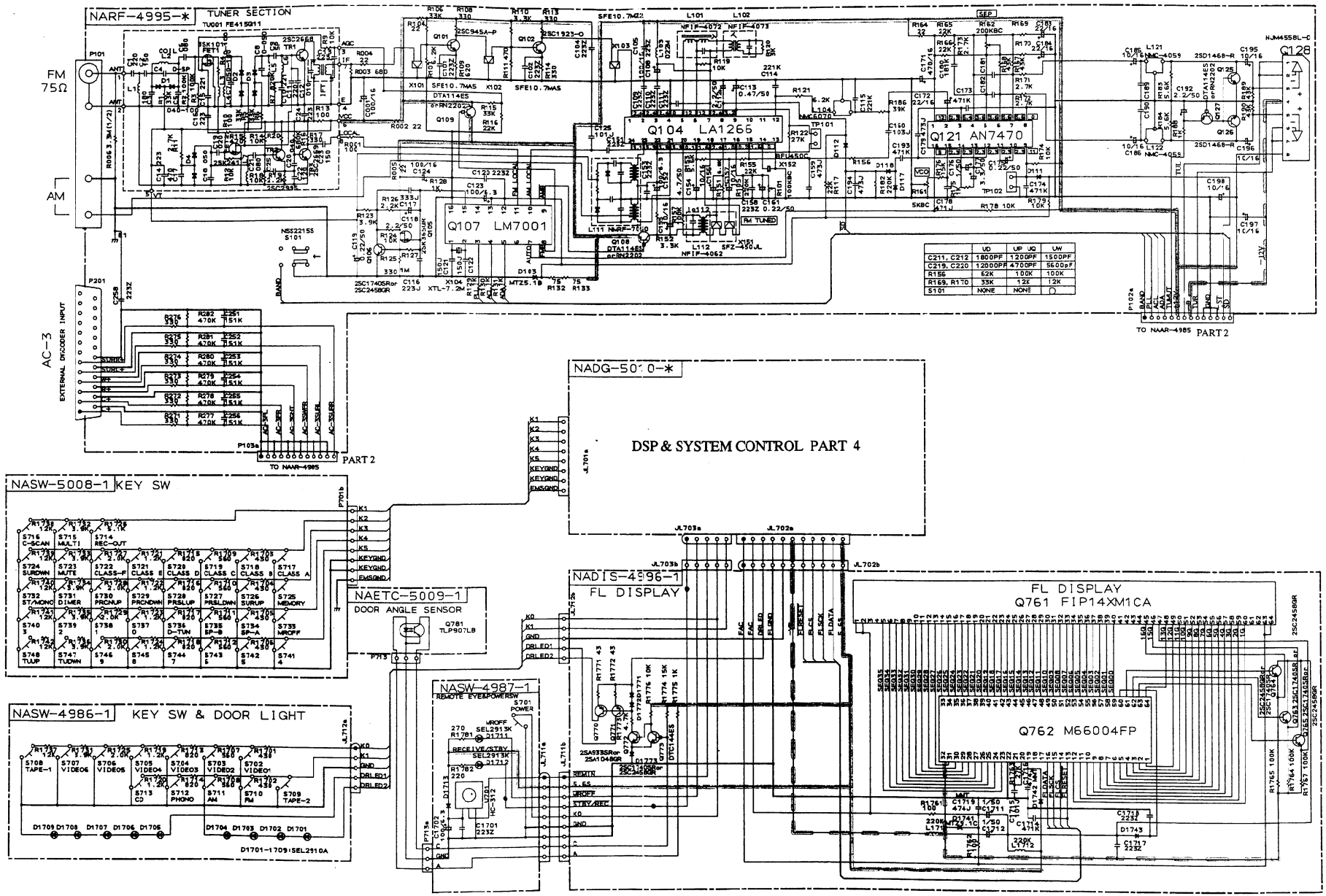
SCHEMATIC DIAGRAM PART 4

DSP AND MICROPROCESSOR SECTIONS



SCHEMATIC DIAGRAM PART 3

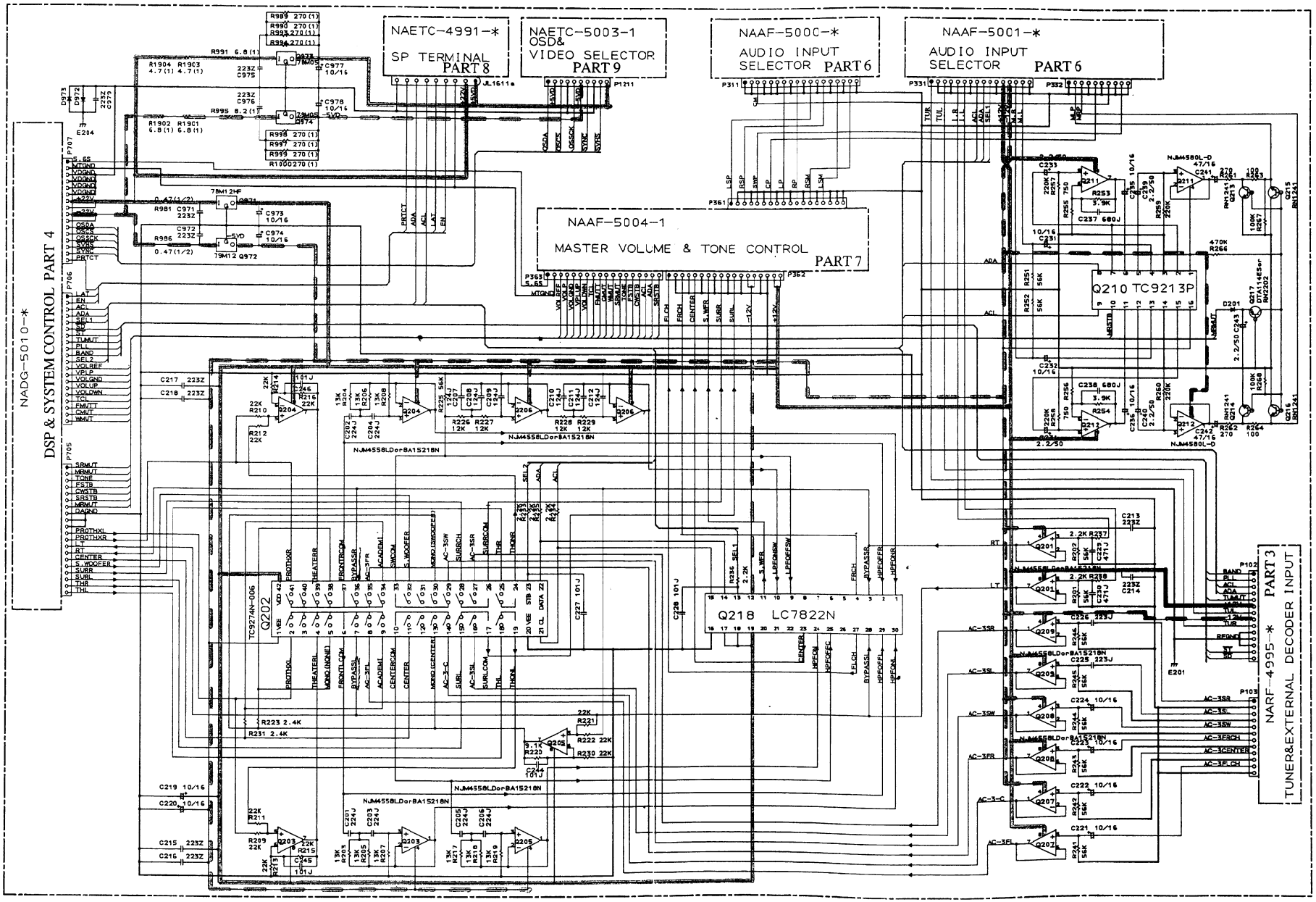
TUNER AND DISPLAY SECTIONS



	UD	UP UQ	UW
C211, C212	1800PF	1200PF	1500PF
C219, C220	12000PF	4700PF	5600pF
R155	62K	100K	100K
R169, R170	33K	12K	12K
S101	NONE	NONE	D

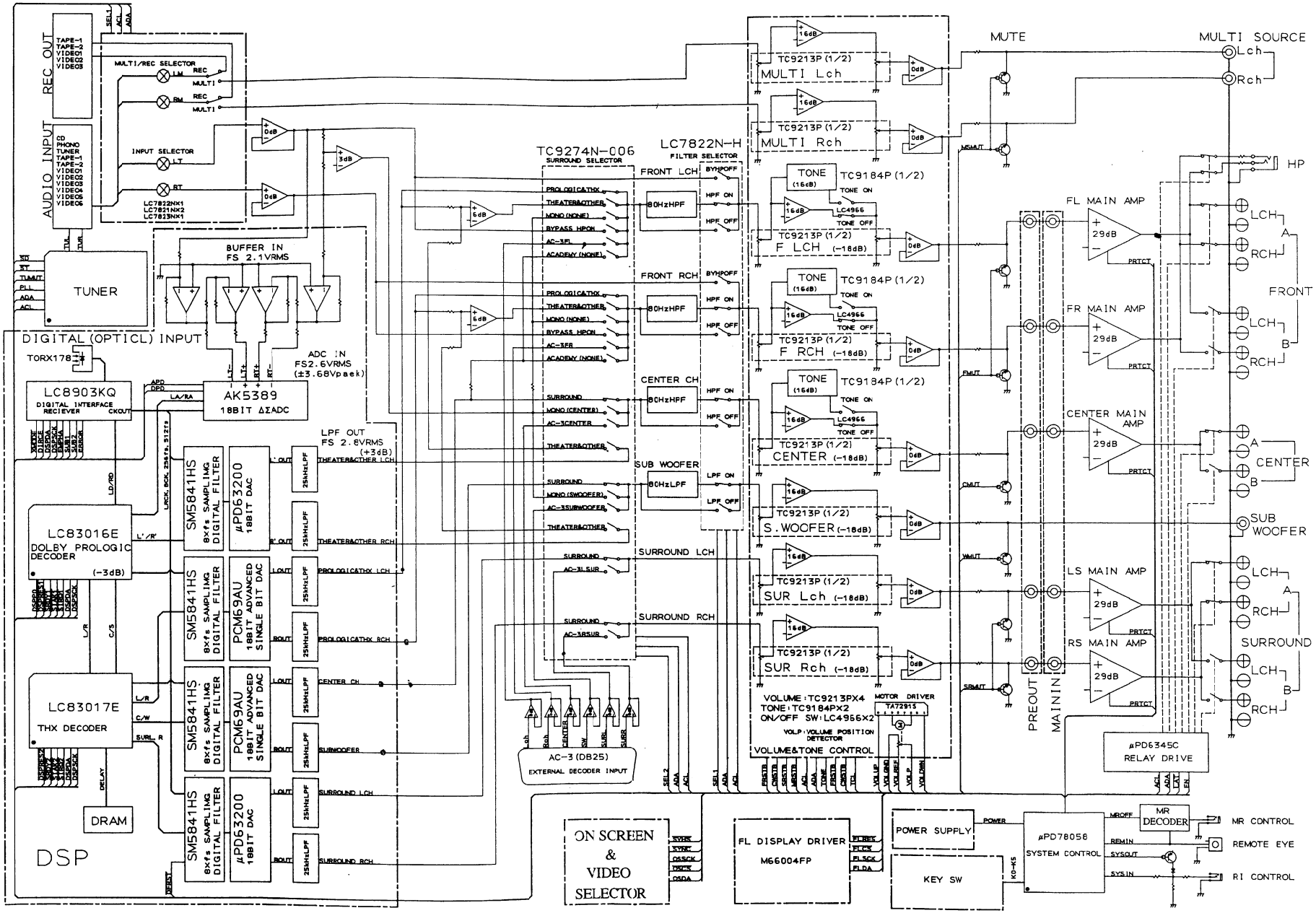
SCHEMATIC DIAGRAM PART 2

CONNECTION SECTION



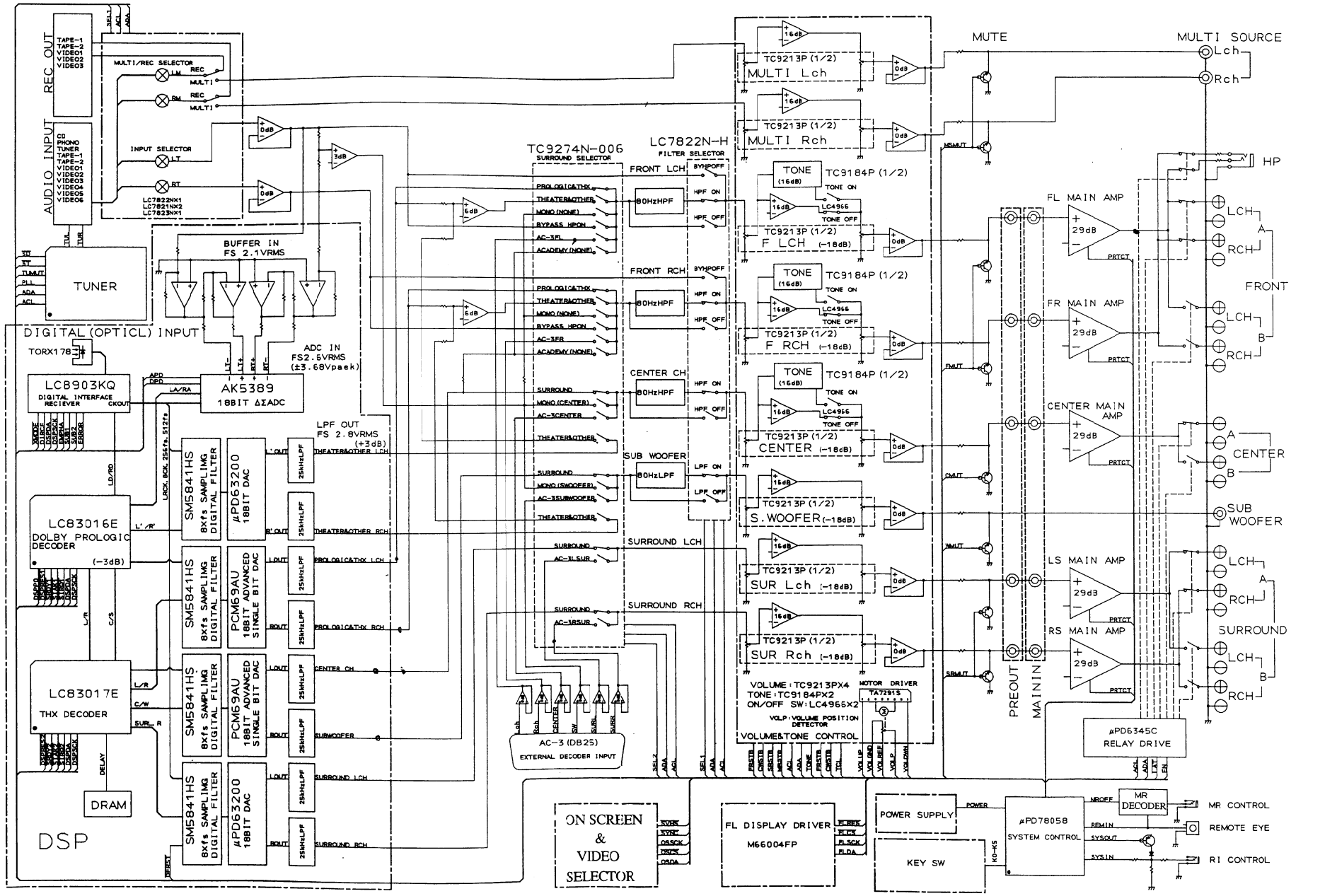
ONKYO CORPORATION

SCHEMATIC DIAGRAM PART 1

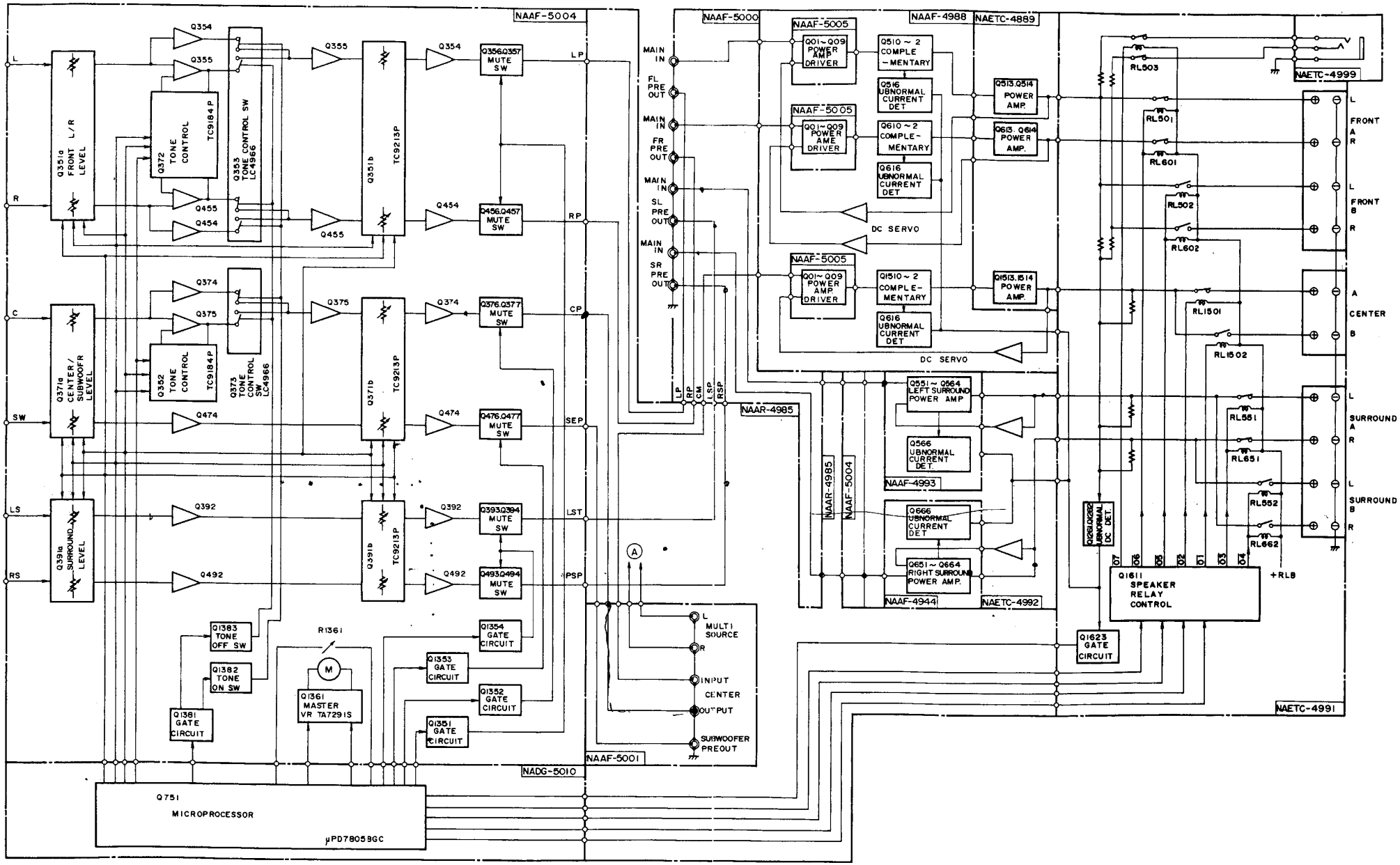


ONKYO CORPORATION

SCHEMATIC DIAGRAM PART 1



ONKYO CORPORATION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NAAF-5000
NAAF-4988
NAETC-4889
NAAF-5005
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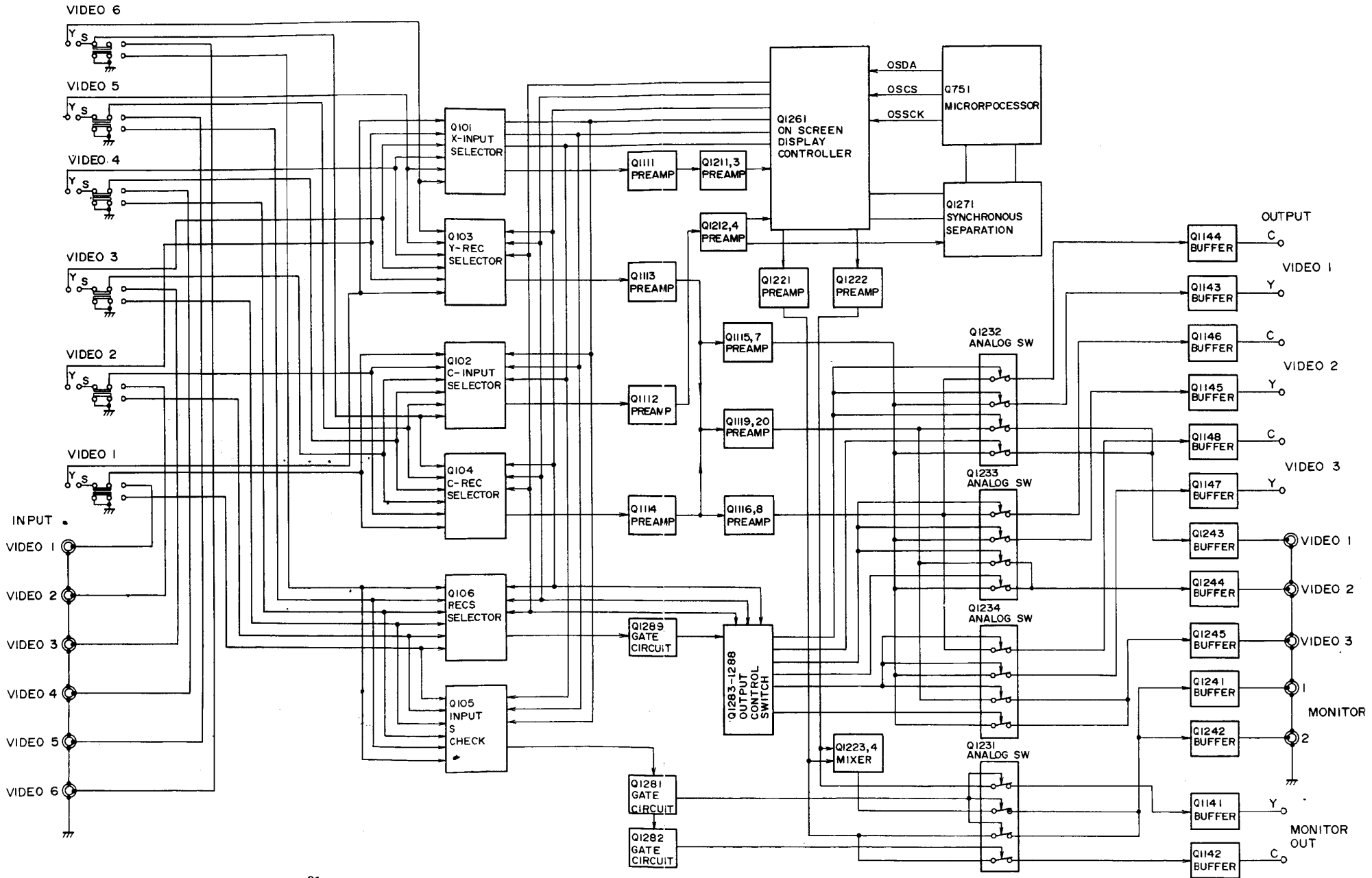
NAAF-5004
NAAF-4993
NAAF-4944
NAETC-4992
NAETC-4991
NADG-5010
NAAF-5001
L
R
C
SW
LS
RS
Q351a FRONT L/R LEVEL
Q372 TONE CONTROL TC9184P
Q353 TONE CONTROL SW LC4966
Q351b TC9213P
Q371a CENTER/SUBWOOFR LEVEL
Q352 TONE CONTROL TC9184P
Q373 TONE CONTROL SW LC4966
Q371b TC9213P
Q391a SURROUND LEVEL
Q391b TC9213P
Q354
Q355
Q455
Q454
Q374
Q375
Q474
Q392
Q492
Q356.0357 MUTE SW
Q456.0457 MUTE SW
Q376.0377 MUTE SW
Q476.0477 MUTE SW
Q393.0394 MUTE SW
Q493.0494 MUTE SW
LP
RP
CP
SEP
LST
RSP
MAIN IN
FL PRE OUT
FR PRE OUT
SL PRE OUT
SR PRE OUT
Q001~Q009 POWER AMP DRIVER
Q510~2 COMPLE-MENTARY
Q516 UBNORMAL CURRENT DET
Q610~2 COMPLE-MENTARY
Q616 UBNORMAL CURRENT DET
Q513.Q514 POWER AMP.
Q613.Q614 POWER AMP.
DC SERVO
Q1510~2 COMPLE-MENTARY
Q1513.1514 POWER AMP.
Q551~Q564 LEFT SURROUND POWER AMP
Q566 UBNORMAL CURRENT DET.
Q651~Q664 RIGHT SURROUND POWER AMP.
Q666 UBNORMAL CURRENT DET
Q1262.Q1263 UBNORMAL DC DET.
Q1611 SPEAKER RELAY CONTROL
Q1623 GATE CIRCUIT
+RLB
RL503
RL501
RL601
RL502
RL602
RL1501
RL1502
RL551
RL651
RL552
RL662
FRONT A
FRONT B
CENTER
SURROUND A
SURROUND B
Q1383 TONE OFF SW
Q1382 TONE ON SW
Q1381 GATE CIRCUIT
R1361
Q1361 MASTER VR TA7291S
Q1354 GATE CIRCUIT
Q1353 GATE CIRCUIT
Q1352 GATE CIRCUIT
Q1351 GATE CIRCUIT
MULTI SOURCE
INPUT
OUTPUT
SUBWOOFER PREOUT
Q751
MICROPROCESSOR
μPD78058GC

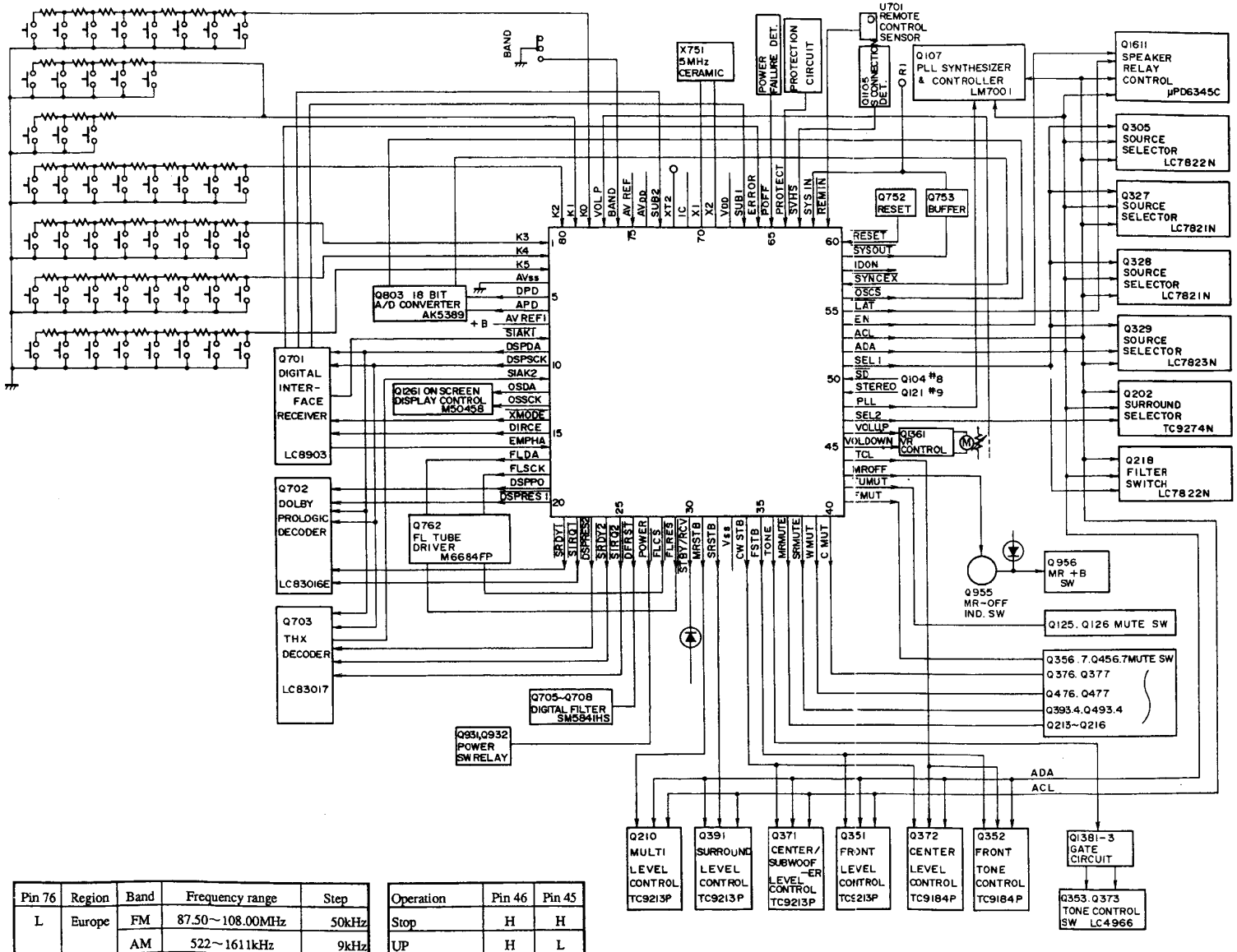
BLOCK DIAGRAM

VIDEO SECTION



MICROPROCESSOR CONNECTION DIAGRAM

μPD78058GC (Microprocessor)



Pin No.	Terminal	I/O	Function
1	K3	I	Operation key connection terminal
2	K4	I	Operation key connection terminal
3	K5	I	Operation key connection terminal
4	AVss		Ground terminal for AD converter
5	DPD	O	Power source control output terminal for digital section Connect to the terminal DPD of AD converter AK5839.
6	APD	O	Power source control output terminal for analog section Connect to the terminal APD of AD converter AK5839.
7	AVRFEI	I	Reference voltage input terminal of DA converter
8	SIAKI	I	Connect to the terminal SIAK of DSP LC83016E.
9	DSPDA	O	Connect to the terminal SI of DSP LC83016E, terminal SI of DSP LC83017E and the terminal DI of DIR LC8309Q.
10	DSPSCK	O	Connect to the terminal SICK of DSP LC83016E, terminal SICK of DSP LC83017E and the terminal CL of DIR LC8309Q.
11	SIAK2	I	Connect to the terminal SIAK of DSP LC83017E.
12	OSDA	O	Connect to the terminal SIN of OSD controller M50458.
13	OSSCK	O	Connect to the terminal SCK of OSD controller M50458.
14	XMODE	O	Connect to the terminal XMODE of DIR LC8903Q.
15	DIRCE	O	Connect to the terminal CE of DIR LC8903Q.
16	EMPHA	I	Connect to the terminal EMPHA of DIR LC8903Q.
17	PLDA	O	Connect to the terminal SDATA of FL tube driver M66004FP.
18	PLSCK	O	Connect to the terminal SCK of FL tube driver M66004FP.
19	DSPPO	O	Connect to the terminal PO of DSP LC83016E.
20	DSPRES1	O	Connect to the terminal RES of DSP LC83016E.
21	SRDY1	O	Connect to the terminal SRDY of DSP LC83016E.
22	SIRQ1	O	Connect to the terminal SIRQ of DSP LC83016E.
23	DSPRES2	O	Connect to the terminal RES of DSP LC83017E.
24	SRDY2	O	Connect to the terminal SRDY of DSP LC83017E.
25	SIRQ2	O	Connect to the terminal SIRQ of DSP LC83017E.
26	DFRST	O	Reset output terminal for Digital filter SM5841HS.
27	POWER	O	Power source control output terminal.
28	FLCS	O	Connect to the terminal CS of FL tube driver M66004FP.
29	FLRES	O	Connect to the terminal RESET of FL tube driver M66004FP.
30	STBY/RECV	O	STAND-BY/RECEIVED indicator output terminal.
31	MRSTB	O	Connect to the terminal STB of electric volume TC9213P-M.
32	SRSTB	O	Connect to the terminal STB of electric volume TC9213P-S.
33	Vss		Ground terminal
34	CWSTB	O	Connect to the terminal STB of electric volume TC9213P-C and TC-9184P-C.
35	FSTB	O	Connect to the terminal STB of electric volume TC9213P-F and TC-9184P-F.
36	TONE	O	Tone control switching output
37	MRMUT	O	Muting control output for multi room
38	SRMUT	O	Muting control output for surround amplifier
39	WMUT	O	Muting control output for sub woofer
40	CMUT	O	Muting control output for center amplifier
41	FMUT	O	Muting control output for front amplifier
42	TUMUT	O	Muting control output for tuner section
43	MROFF	O	Multi room indicator/control output terminal

(Continued on page 89)

Pin 76	Region	Band	Frequency range	Step
L	Europe	FM	87.50~108.00MHz	50kHz
		AM	522~1611kHz	9kHz
H	U.S.A.	FM	87.50~108.00MHz	50kHz
		AM	530~1710kHz	10kHz

Operation	Pin 46	Pin 45
Stop	H	H
UP	H	L
DOWN	L	H
POWER OFF	L	L

CHASSIS-EXPLODED VIEW